

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-42. (Cancelled)

43. (New) An isolated or recombinant nucleic acid molecule that comprises a polynucleotide sequence that encodes a sialyltransferase polypeptide; wherein the sialyltransferase polypeptide has α -2,3-sialyltransferase activity; and
wherein the sialyltransferase polypeptide comprises an amino acid sequence that is at least about 80% identical to an amino acid sequence as set forth in SEQ ID NO:9.

44. (New) The nucleic acid molecule of claim 43, wherein the sialyltransferase polypeptide is selected from the group consisting of SEQ ID NO:9, SEQ ID NO:12, and SEQ ID NO:14.

45. (New) The nucleic acid molecule of claim 43, wherein the sialyltransferase polypeptide comprises an amino acid sequence that is at least about 90% identical to an amino acid sequence as set forth in SEQ ID NO:9.

46. (New) The nucleic acid molecule of claim 43, wherein the polynucleotide sequence that encodes the sialyltransferase polypeptide is at least about 80% identical to a nucleic acid sequence as set forth in SEQ ID NO:8.

47. (New) The nucleic acid molecule of claim 43, wherein the polynucleotide sequence that encodes the sialyltransferase polypeptide is at least about 90% identical to a nucleic acid sequence as set forth in SEQ ID NO:8.

48. (New) The nucleic acid molecule of claim 43, wherein the polynucleotide sequence that encodes the sialyltransferase polypeptide is selected from the group consisting of SEQ ID NO:8, SEQ ID NO:11, and SEQ ID NO:13.

49. (New) An expression cassette that comprises a nucleic acid molecule of claim 43.

50. (New) An expression vector that comprises the expression cassette of claim 49.

51. (New) A host cell that comprises the expression vector of claim 50.

52. (New) An isolated or recombinant nucleic acid molecule that comprises a polynucleotide sequence that encodes a sialyltransferase polypeptide; wherein the sialyltransferase polypeptide has α -2,3-sialyltransferase activity;
and wherein the sialyltransferase polypeptide comprises an amino acid sequence as set forth in SEQ ID NO:9.

53. (New) An isolated or recombinant nucleic acid molecule that comprises a polynucleotide sequence that encodes a sialyltransferase polypeptide; wherein the sialyltransferase polypeptide has α -2,3-sialyltransferase activity;
and wherein the sialyltransferase polypeptide comprises an amino acid sequence as set forth in SEQ ID NO:12.

54. (New) An isolated or recombinant nucleic acid molecule that comprises a polynucleotide sequence that encodes a sialyltransferase polypeptide; wherein the sialyltransferase polypeptide has α -2,3-sialyltransferase activity;
and wherein the sialyltransferase polypeptide comprises an amino acid sequence as set forth in SEQ ID NO:14.

55. (New) An isolated or recombinant nucleic acid molecule that comprises a polynucleotide sequence that encodes a sialyltransferase polypeptide; wherein the sialyltransferase polypeptide has α -2,3-sialyltransferase activity;

and wherein the polynucleotide sequence comprises a nucleic acid sequence as set forth in SEQ ID NO:8.

56. (New) An isolated or recombinant nucleic acid molecule that comprises a polynucleotide sequence that encodes a sialyltransferase polypeptide; wherein the sialyltransferase polypeptide has α -2,3-sialyltransferase activity;

and wherein the polynucleotide sequence comprises a nucleic acid sequence as set forth in SEQ ID NO:11.

57. (New) An isolated or recombinant nucleic acid molecule that comprises a polynucleotide sequence that encodes a sialyltransferase polypeptide; wherein the sialyltransferase polypeptide has α -2,3-sialyltransferase activity;

and wherein the polynucleotide sequence comprises a nucleic acid sequence as set forth in SEQ ID NO:13.

58. (New) An isolated or recombinant nucleic acid molecule that comprises a polynucleotide sequence that encodes a fusion protein comprising a sialyltransferase polypeptide and a tag for purification; wherein the sialyltransferase polypeptide has α -2,3-sialyltransferase activity; and wherein the sialyltransferase polypeptide comprises an amino acid sequence that is at least about 80% identical to an amino acid sequence as set forth in SEQ ID NO:9.